

IN THE CLAIMS

Claims 1-18 (Cancelled).

19. (Original) A device comprising:

a plurality of thermocouple conductors including at least a first, a second and a third thermocouple conductor, wherein the first thermocouple conductor is of a first type, the second thermocouple conductor is of a second type, and the third conductor is of a type different from the second type;

at least first and second thermocouple junctions, wherein the first thermocouple junction is formed from the first and second thermocouple conductors and the second thermocouple junction is formed from the second and third thermocouple conductors; and

heat shrinkable polymer material melted to seal the at least first and second thermocouple junctions.

20. (Original) The device of claim 19, further comprising a distal end, wherein the at least first and second thermocouple junctions are positioned such that a first thermocouple junction is located at the distal end and the at least second thermocouple junction is located further from the distal end than the first thermocouple junction.

21. (Original) The thermocouple of claim 19, wherein the sealing the thermocouple junction provides a reproducible confined shape having a height less than about 0.008 inches and a width less than about 0.010 inches.

22. (Original) The device of claim 19, wherein the device is adapted and sized to fit into a catheter, and wherein the second end further comprises at least three terminations of the at least three thermocouple conductors, and wherein a difference in voltage at the thermocouple junctions available at the at least three terminations indicates a difference in temperature along the length of the catheter.

23. (Original) The device of claim 19, wherein the thermocouple conductor types are selected from a set of A.S.T.M. types T, J, K, E, S, R, and B.

24. (Original) A device comprising:

N thermocouple conductors including at least a first conductor and a second conductor;
a range of $N/2$ to $N-1$ thermocouple junctions formed from thermocouple conductor pairs, wherein a thermocouple junction is comprised of two thermocouple conductors of different types, and wherein one thermocouple conductor type may be used in comprising more than one thermocouple junction; and
heat shrinkable polymer material melted to seal thermocouple junctions.

25. (Original) The device of claim 24, wherein the device further comprises a distal end, and wherein the thermocouple junctions are formed at different distances from the distal end.

26. (Original) The device of claim 24, wherein the thermocouple conductor types are selected from a set of A.S.T.M. types T, J, K, E, S, R, and B.